ehp

LESSON:

Beauty or the Beast?

Summary: Students read about a new cosmetics law in California, then examine the ingredients list of a personal cosmetic or toiletry product. Students also evaluate the quality of information sources claiming that certain chemicals in such products are harmful.

Lesson Type: This lesson uses in-depth information from the *EHP* Focus article.

***EHP* Article:** "California Enacts Safe Cosmetics Act"
EHP Student Edition, October 2006, p. A402
http://www.ehponline.org/docs/2006/114-7/forum.html

Objectives: By the end of this lesson, students should be able to

1. evaluate the labeling and ingredients list of cosmetic and toiletry products; and
2. identify sources of unbiased and reliable information.

Class Time: 45–50 minutes

Grade Level: 9–12

Subjects Addressed: General Science, Health, Biology, Environmental Science

Prepping the Lesson (15 minutes)

INSTRUCTIONS:

1. Download the entire October 2006 *EHP Student Edition* at http://www.ehponline.org/science-ed/, or download just the article "California Enacts Safe Cosmetics Act" at http://www.ehponline.org/docs/2006/114-7/forum.html.
2. Review the Background Information, Instructions, and Student Instructions.
3. Make copies of the Student Instructions.
4. Decide if you want to have the students bring their own personal cosmetic or toiletry products to class to evaluate or whether you want to supply the products. It may be more meaningful if the students bring their own products and you have a few extra on hand for students who forget to bring a product to class.
5. A day or two before implementing the lesson, have a brief discussion with the students and ask them to identify or list types of cosmetic and toiletry products. Write the list on the board as students provide examples. These include shampoo/conditioner, shaving cream, lotion, hair styling products, perfume, makeup, nail polish and remover, toothpaste, mouthwash, eye drops, contact lens cleaner, bubble bath, tooth whitener, acne products, etc. Ask each student to bring 1 (or more) cosmetic product(s) to class.

MATERIALS (per student):

- 1 copy of the *EHP Student Edition* October 2006, or 1 copy of "California Enacts Safe Cosmetics Act"
- 1 copy of the Student Instructions
- 1 personal cosmetic or toiletry product

VOCABULARY:

- carcinogen
- reproductive toxicant
- teratogen

BACKGROUND INFORMATION:

The lesson provides most of the information needed to conduct the lesson; however, some additional information on phthalates and chemical mixtures is included for your reference for discussions you may have with students. More detailed information can be found in the Resources section, as well as in related lessons.

Phthalates are plasticizers used in many cosmetic products to dissolve ingredients, moisturize skin, and provide flexibility (as in

2. As a class, read and discuss the information about the FDA in Step 2. Some questions you may want ask students are:
   - What are some possible concerns if regulation happens *after* a product is released?
     - Manufacturers can use a chemical, whether or not it has been tested for safety.
     - Humans essentially become a living laboratory.
   - Ask the students to hold up any products that are labeled "natural" or "all natural."
     - How are those words intended to make us feel?
       - That somehow the product is safer.
     - What are some problems with this language?
       - It does not guarantee safety. For example, poison ivy is natural, but would you want to put it on your face? Petroleum jelly, or petrolatum, is also natural (it is made from petroleum oil) but may be linked to cancer.
       - Many products labeled as "natural" may also contain man-made chemicals.
   - Ask the students to hold up products that are labeled "hypoallergenic," "dermatologist tested," "non-irritating," "alcohol free," or "fragrance free."
     - When we see a statement made on a label, what do we expect or assume about that product?
       - That the product has been tested as advertised, and that the statement is true.
     - This is where enforced regulations come into play. For example, if a product is labeled "organic," it means very specific things (e.g., the product was grown without pesticides, antibiotics, hormones, or certain fertilizers), and the claim has been certified as being true by the U.S. Department of Agriculture through an independent inspector. If the statement is found to be untrue, manufacturers are fined up to $10,000 per violation. There are no such enforcements for cosmetics labeling.
3. Instruct the students to complete Steps 4–6 on their own. Discuss as needed. Use the Assessing the Lesson section for points of discussion. You may also consider asking the following questions:
   - What if the EWG list is wrong or biased? (Refer to the Notes & Helpful Hints section for the webpage with the list of harmful chemicals found in cosmetics.)
     - Removing suspect ingredients may negatively impact the shelf life of the product.
     - The product may not work as well once the potentially hazardous ingredients are removed.
     - The profits of the companies may be negatively impacted.
   - What if the EWG list is correct?
     - People's health may be negatively affected.
     - Dangerous products pass into the environment as we take showers, then seep into the food and water we eat and drink.
   - Which is the greater societal risk—loss of company profit or harm to public health?
   - Would you pay more for a product that you know works AND does not hurt your health?
   - Is there a way to balance profit and health?
     - You may want to discuss some of the companies that have pledged to not use known or suspected carcinogens or reproductive or developmental toxicants; see http://www.ewg.org/reports/skindeep2/findings/index.php?content=compact_signers#begin.

NOTES & HELPFUL HINTS:

- Go to the website "Skin Deep" sponsored by the EWG, http://www.ewg.org/reports/skindeep2/, and have the students look up their product(s) to find out the specific chemicals of concern in the product. Chemicals and products are rated as being of low, moderate, or higher concern.
- This activity could be expanded to incorporate data collection. Students could list the number of cosmetic products they use on a daily or nearly daily basis and mark the ones on the list that contain toxic chemicals. The lists could be combined across classes, and the students could calculate the percentage of products that contain toxic chemicals from the list.